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1     **ABSTRACT**

2             Methods and systems of authoring XML using DHTML views and XSLT  
3 are described. Various user interfaces can be automatically or semi-automatically  
4 provided in a DHTML view that enable a user to interact with the DHTML view.  
5 The interfaces, some of which are termed "in document" interfaces, permit a user  
6 to interact with a DHTML view and have those interactions automatically made to  
7 a corresponding XML document that describes data that is associated with the  
8 DHTML view. Presentation of the various in document interfaces takes place by  
9 considering not only an XML schema (of which the XML document is an  
10 instance), but an XSL-T (XSLT transformation) that was utilized to transform the  
11 XML document into the DHTML view. In addition, the notion of a crystal is  
12 introduced and is used to map interactions with a DHTML view directly back to a  
13 corresponding XML document. A crystal, in a basic form, includes one or more  
14 behaviors and associated XSL-T. The crystals are used to transform XML into the  
15 DHTML views. The behaviors of a crystal are defined to be data-shape specific or  
16 dependent, with the data shape being defined by the XML document. The  
17 behavior is not necessarily dependent upon any schema, data or tags. Because of  
18 its data-shape dependent nature, crystals can be packaged for reuse with various  
19 XML documents which have no relation to one another other than a shape that is  
20 defined by the XML. Behaviors can be attached to DHTML tags that are  
21 generated by the XSL-T. The behaviors ensure that user interactions with the  
22 DHTML view are mapped directly back to the XML document. In this way, the  
23 XML document can be authored to reflect the changes that are made to the  
24 DHTML view by the user.  
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